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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/375,459	08/17/1999	DONALD MARTIN MONRO	3838-P-003	5108

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EXAMINER

DO, ANH HONG

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 04/05/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/375,459

Applicant(s)
Monro

Examiner
Anh Hong Do

Art Unit
2624



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above, claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21, and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6 + 8 20) ☐ Other:

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Preliminary Amendment

2. The amendment to claim 1 filed 8/17/1999 has not been entered, because it does not include a parenthetical expression following the claim number to indicate the status of the claim as amended or newly added, e.g., "amended," "twice amended," or "new," in both the clean version and the marked up version as required by 37 C.F.R. §1.121(c)(1)(ii).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over De With et al. (EP No. 0551672) in view of Xiong et al. ("A DCT-Based Embedded Image Coder").

Regarding claims 1-4, De With discloses a method of image compression comprising:

(a) dividing an image to be compressed into a plurality of image blocks (col. 3, lines 47-49);

(b) carrying out a two-dimensional block transform on each block to produce a corresponding plurality of coefficient blocks (col. 3, lines 49-51);

(d) defining a group of one or more consecutive bit planes (Fig. 1A) starting with the most significant bit plane (col. 3, line 58 - col. 4, line 2);

(e) selecting those coefficients which first become significant within the group (col. 6, lines 48-52, discloses recording (i.e, selecting) the 4 MSBs);

(f) flagging said selected coefficients (col. 4, lines 13-21);

(g) transmitting information representative of the positions of said selected coefficients and transmitting the bits within the group of said coefficients (col. 9, line 55- col. 10, line 1).

(h) repeating (d) to (g) one or more times with each new group starting with the most significant bit plane not previously dealt with (col. 5, lines 25-27); and at each repeated pass, also transmitting the bits within the current group of those coefficients which were previously flagged on an earlier pass (col. 5, lines 4-11).

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One skilled in the art would have clearly recognized that the loss of DCT coefficients in De With can affect a significant parts of video image. De With does not specifically teach bitwise quantizing the coefficients within each coefficient block to define a plurality of bit planes for each coefficient block.

Xiong, in the same field of endeavor, teaches a quantizer for bitwise quantizing the DCT coefficients within each coefficient block to define a plurality of bit planes (page 290, right column, paragraph 1), wherein by clever quantizer design, DCT is capable of delivering much better performance (page 290, right column, last paragraph) which implicitly prevents DCT coefficients from loosing thereby improve the image quality.

Therefore, it would have been obvious to have employed a quantizer in De With as taught by Xiong to bitwise quantize the DCT coefficients in order to prevent the loss of DCT coefficients so as to improve the image quality.

Regarding claim 17, since this claim is an apparatus claim corresponding to method claim 1, the discussion of claims 1-4 apply hereto.

Regarding claim 22, since this claim recites the same subject matters as those in claim 17, the discussion of claim 17 applies hereto plus a decoder 48 in De With being arranged to maintain a running record, as transmission between coder and the decoder proceeds, of the coefficients which are currently significant (Fig. 10).

Regarding claims 5 and 6, although De With does not specifically teach the Lapped Orthogonal Transform and the Fast Fourier Transform, these types of transform are merely a

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matter of design choice and would have been obvious in the system of De With. The Lapped Orthogonal Transform and the Fourier Transform do not define a patentably distinct invention over that in De With since both the invention as a whole and De With are directed to transforming the image blocks. The types of transform in which the image blocks are transformed is inconsequential for the invention as a whole and presents no new or unexpected results, so long as the image blocks are successfully transformed. Therefore, to use the Lapped Orthogonal Transform and the Fourier Transform in De With would have been a matter of design choice to one of ordinary skill in the art.

Regarding claims 7, 18, 19, and 21, De With teaches transforming a binary/digital mask which defines the position of said selected coefficients (Fig. 10 shows the binary mask from A/D 30 is transmitted).

Regarding claim 8, Xiong teaches JPEG zigzag scan (page 290, left column, last paragraph). The motivation is set forth in claims 1-4.

Regarding claims 9 and 10, Xiong teaches defining the mask end point (page 290, left column, last paragraph).

Regarding claims 11, 12 and 13, although De With does not specifically teach the entropy coded version, the arithmetic coded version and the Huffman coded version, these types of coding are merely a matter of design choice and would have been obvious in the system of De With. The entropy coded version, the arithmetic coded version and the Huffman coded version do not define a patentably distinct invention over that in De With since both the invention as a whole

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and De With are directed to encoding the image blocks. The types of coding in which the image blocks are encoded is inconsequential for the invention as a whole and presents no new or unexpected results, so long as the image blocks are successfully encoded. Therefore, to use the entropy coded version, the arithmetic coded version and the Huffman coded version in De With would have been a matter of design choice to one of ordinary skill in the art.

Regarding claim 14, De With teaches the transmitted mask is run length coded (col. 4, lines 9-29).

Regarding claims 15 and 16, De With teaches transforming a binary/digital mask which defines the position of said selected coefficients (Fig. 10 shows the binary mask from A/D 30 is transmitted). And Xiong teaches JPEG zigzagscan and defining the mask end point (page 290, left column, last paragraph). The motivation is set forth in claims 1-4.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Hong Do whose telephone number is (703) 308-6720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700 or 4750.

The fax phone number for this Group is (703) 872-9314.

April 4, 2002.

